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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,510	01/28/2004	Robert W. Warren JR.	STL11664	5962

7590 03/12/2007
Seagate Technology LLC
1280 Disc Drive
Shakopee, MN 55379

EXAMINER

COLEMAN, VANESSA V

ART UNIT	PAPER NUMBER
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2627

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/767,510

Applicant(s)

WARREN, ROBERT W.

Examiner

Vanessa (Brandi) Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 7, 9, 12, 15, 17, 20 and 23 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5, 6, 8, 10, 11, 13, 14, 16, 18, 19, 21, 22, and 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 5 lines 12-17 include features with conflicting reference numbers. In line 12 the reference number 134 is used to identify a printed circuit board, while in line 14, the reference number 132 is used to identify to the same printed circuit board. Also, in line 17 the reference number 134 is used to identify a flex bracket.

Appropriate correction is required.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "132" and "134" have both been used to designate a printed circuit board. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "134" has been used to designate both a printed circuit board and a flex bracket. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show a flex bracket as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 4, 7, 9, 12, 15, 17, 20, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada (hereafter "Okada"), US Patent No. 7,054,249.

For Claim 1, Okada discloses:

A method of interleaving storage of data streams on a rotating storage medium (disk 66, see Fig 25) of a data storage device (storage device 51, see Fig 12), the method comprising: dividing the storage medium into a plurality of logical zones

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("zones" referenced in Col. 4 lines 48-52 and Col. 21 lines 26-28; See Fig 25), each logical zone of the plurality of logical zones extending radially from an inner diameter of the storage medium to an outer diameter of the storage medium (see Fig 25, where the radial width of each of zones 1 through 6 extends radially from an inner to outer diameter of the medium); and writing data from a first stream of data to a first logical zone of the plurality of logical zones for up to an amount of time corresponding to a rotational speed of the storage medium and a size of the first logical zone (Col. 21 lines 28-29 describe zones of the disk and their capacities, while Col. 21 lines 31-34 discloses the transfer rate of each zone. Further, Col. 21 lines 38-40 and Col. 22 lines 6-9 both describe instances of first recording data. As each zone has a specific capacity and data rate, data would be written to any of the zones for an amount of time dependent on the zone's capacity and rate).

For Claim 4, Okada discloses:

The method of claim 1, further comprising recording an index for at least the beginning of the first logical zone (see Col. 4 lines 57-61, wherein the address segment of the leading track's first frame in a first zone is an index at the beginning of the first zone).

For Claim 7, Okada discloses:

The method of claim 1, further comprising writing data from a second stream of data in a second logical zone of the plurality of logical zones (Col. 21 lines 42-45, where Ch2 data is second data).

For Claim 9, Okada discloses:

A data storage device (storage device 51, see Fig 12) comprising: one or more read/write heads (disk drive Col 13 line 67, Col 14 line 1, where a disk drive is known to contain at least one read/write head; also, because read/write processes are performed, a read/write head must be present); a rotating storage medium (disk 66) accessible by the one or more read/write heads; a processor (MPU 61) coupled with the read/write heads to access data on the storage medium; and a memory connected with and readable by the processor and having stored therein instructions that, when executed by the processor (MPU 61, where a microprocessor that controls access to a disk and receives read/write commands as in Col. 13 lines 64-65, the microprocessor has a memory to store instructions to perform the commanded function) cause the processor to interleave storage of data streams on the rotating storage medium by: dividing the storage medium into a plurality of logical zones ("zones" referenced in Col. 4 lines 48-52 and Col. 21 lines 26-28; See Fig 25), each logical zone of the plurality of logical zones extending radially from an inner diameter of the storage medium to an outer diameter of the storage medium (see Fig 25, where the radial width of each of zones 1 through 6 extends radially from an inner to outer diameter of the medium); and writing data from a first stream of data to a first logical zone of the plurality of logical zones for up to an

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amount of time corresponding to a rotational speed of the storage medium and a size of the first logical zone (Col. 21 lines 28-29 describe zones of the disk and their capacities, while Col. 21 lines 31-34 discloses the transfer rate of each zone. Further, Col. 21 lines 38-40 and Col. 22 lines 6-9 both describe instances of first recording data. As each zone has a specific capacity and data rate, data would be written to any of the zones for an amount of time dependent on the zone's capacity and rate).

For Claim 12, Okada discloses:

The data storage device of claim 9, further comprising recording an index for at least the beginning of the first logical zone (see Col. 4 lines 57-61, wherein the address segment of the leading track's first frame in a first zone is an index at the beginning of the first zone).

For Claim 15, Okada discloses:

The data storage device of claim 9, further comprising writing data from a second stream of data in a second logical zone of the plurality of logical zones (Col. 21 lines 42-45, where Ch2 data is second data).

For Claim 17, Okada discloses:

A computer readable medium having stored thereon a series of instruction that (disk 66, where a medium inherently includes instructions for performing function to the disk), when executed by a processor, cause the processor to interleaving storage of

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data streams on a rotating storage medium of a data storage device by: dividing the storage medium into a plurality of logical zones ("zones" referenced in Col. 4 lines 48-52 and Col. 21 lines 26-28; See Fig 25), each logical zone of the plurality of logical zones extending radially from an inner diameter of the storage medium to an outer diameter of the storage medium (see Fig 25, where the radial width of each of zones 1 through 6 extends radially from an inner to outer diameter of the medium); and writing data from a first stream of data to a first logical zone of the plurality of logical zones for up to an amount of time corresponding to a rotational speed of the storage medium and a size of the first logical zone (Col. 21 lines 28-29 describe zones of the disk and their capacities, while Col. 21 lines 31-34 discloses the transfer rate of each zone. Further, Col. 21 lines 38-40 and Col. 22 lines 6-9 both describe instances of first recording data. As each zone has a specific capacity and data rate, data would be written to any of the zones for an amount of time dependent on the zone's capacity and rate).

For Claim 20, Okada discloses:

The computer readable medium of claim 17, further comprising recording an index for at least the beginning of the first logical zone (see Col. 4 lines 57-61, wherein the address segment of the leading track's first frame in a first zone is an index at the beginning of the first zone).

For Claim 23, Okada discloses:

The computer readable medium of claim 17, further comprising writing data from a second stream of data in a second logical zone of the plurality of logical zones (Col. 21 lines 42-45, where Ch2 data is second data).

Allowable Subject Matter

7. Claims 2, 3, 5, 6, 8, 10, 11, 13, 14, 16, 18, 19, 21, 22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Senshu, Susumu	US 2003/0012110 A1
Ohata et al.	US 6738341 B2
Hinshaw et al.	US 7089448 B2

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa (Brandi) Coleman whose telephone number is

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(571) 272-9081. The examiner can normally be reached on Monday thru Friday 7:30-5 EST, First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Ghandi can be reached on (571) 272-9820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vanessa (Brandi) Coleman
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VC



THAO X. LE
PRIMARY PATENT EXAMINER